CONTENTS

DIVISION I SPECIFICATIONS AND ADJUSTMENTS

75-900 GENERAL SPECIFICATIONS

a. Model Designations

Trans. Model Auto-Cruise Control Equipped	Corresponding Model less Auto-Cruise Control	Model Usage
MZ	MJ	All 300 cu. in. V-8 Models except Sportwagons
MY	MR	All 340 cu. in. V-8 Model Sportwagons
MX	ML	All 340 cu. in. Engines ex-except Sportwagons
LZ	LJ	All 225 cu. in. V-6 Models

b. Transmission Identification Number

A production day build number, transmission model and model year are stamped on the low servo cover located on the middle right side of the transmission case. See Figure 75-900. Since the production day build number furnishes the key to construction and interchangeability of parts in each transmission, the number must be used when selecting replacement parts as listed in the master parts book. The model number and day build number must always be furnished on product reports, AFA forms and all correspondence with the factory concerning a particular transmission.

c. General Specifications

The general specifications are the

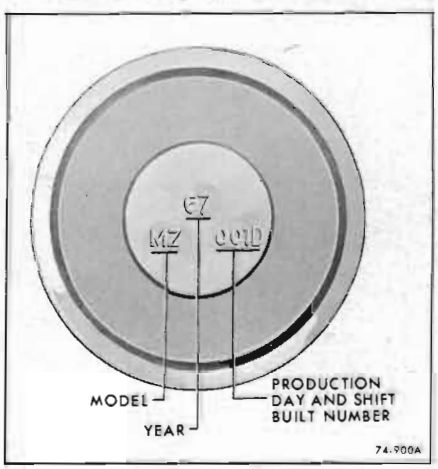


Figure 75-900—Model Identification Information

same for the Auto-Cruise Control transmission as the standard Super Turbine 300 automatic transmission.

75-901 BOLT TORQUE SPECIFICATIONS

Bolt torque specifications are the same for the Auto-Cruise Control equipped transmission as the standard Super Turbine 300 automatic transmission except for the following:

Part	Location	Thread Size	Torque Lbs. Ft.
Bolt	Cruise control spacer plate to case	5/16-18	8-12
Bolt	Cruise control valve body to spacer plate	1/4-20	6-9
Bolt	Cruise control solenoid to valve body	1/4-20	8-12
Stud (Special)	Cruise control solenoid to valve body	1/4-20	8-12
Fitting	Oil pad fitting	3/4-10	25-35
Fitting	Hydraulic control line fitting to oil pan fitting	1/2-13	See Figure 75-932
Fitting	Hydraulic control cylinder line to cylinder	1/2-20	8-12
	Lock lever to valve body	1/4-20	See Figure 75-926

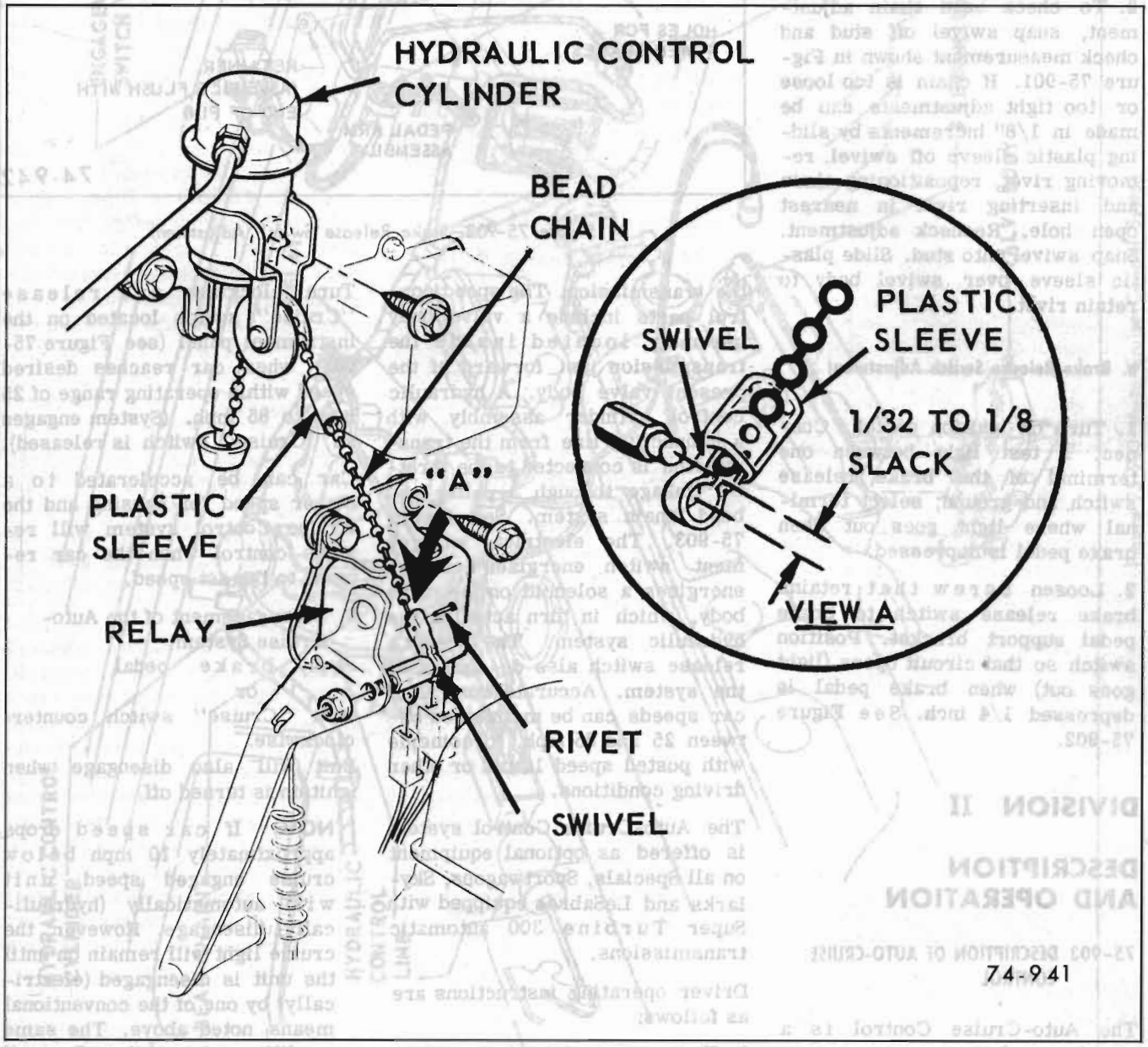


Figure 75-901—Bead Chain Adjustment

75-902 AUTO-CRUISE CONTROL ADJUSTMENTS

IMPORTANT: Do not lubricate the hydraulic control cylinder bead chain or its pulley.

a. Hydraulic Control Cylinder Bead Chain Adjustment

1. SET CARBURETOR AT CURB IDLE POSITION.

2. To check bead chain adjustment, snap swivel off stud and check measurement shown in Figure 75-901. If chain is too loose or too tight adjustments can be made in 1/8" increments by sliding plastic sleeve off swivel, removing rivet, repositioning chain and inserting rivet in nearest open hole. Recheck adjustment. Snap swivel onto stud. Slide plastic sleeve over swivel body to retain rivet.

b. Brake Release Switch Adjustment

1. Turn on ignition switch. Connect a test light between one terminal of the brake release switch and ground; select terminal where light goes out when brake pedal is depressed.

2. Loosen screw that retains brake release switch to brake pedal support bracket. Position switch so that circuit opens (light goes out) when brake pedal is depressed 1/4 inch. See Figure 75-902.

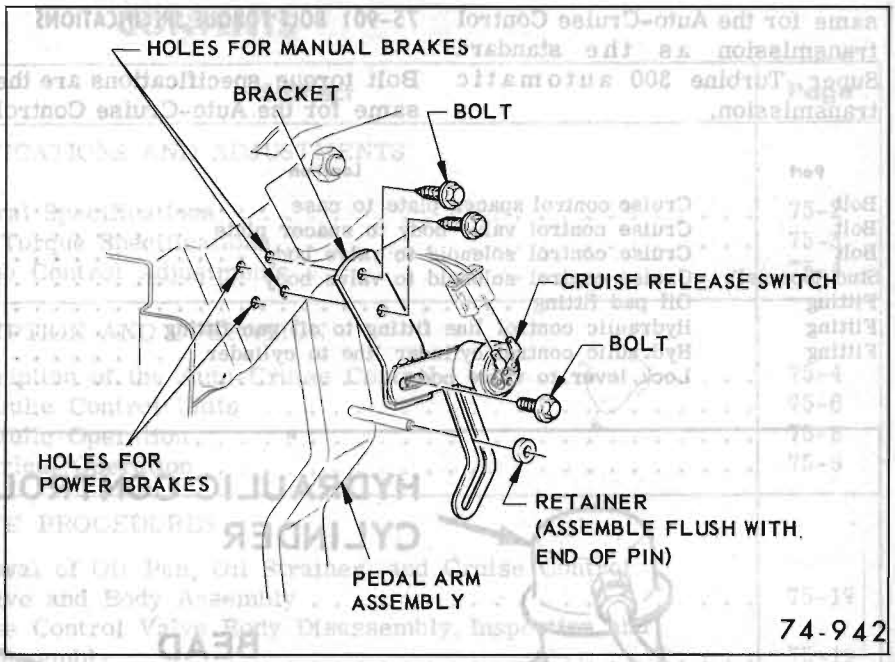


Figure 75-902—Brake Release Switch Adjustment

DIVISION II

DESCRIPTION AND OPERATION

75-903 DESCRIPTION OF AUTO-CRUISE CONTROL

The Auto-Cruise Control is a speed regulating system completely controlled hydraulically by the transmission. The speed control parts include a valve body assembly located inside the transmission just forward of the present valve body. A hydraulic control cylinder assembly with a connecting line from the transmission is connected to the throttle linkage through a pulley and bead chain system. See Figure 75-903. The electrical engagement switch energizes or de-energizes a solenoid on the valve body, which in turn actuates the hydraulic system. The brake release switch also de-energizes the system. Accurate control of car speeds can be maintained between 25 and 85 mph. to coincide with posted speed limits or other driving conditions.

The Auto-Cruise Control system is offered as optional equipment on all Specials, Sportwagons, Skylarks and LeSabres equipped with Super Turbine 300 automatic transmissions.

Driver operating instructions are as follows:

1. Engagement of the Auto-Cruise System

Turn clockwise and release "Cruise" switch located on the instrument panel (see Figure 75-903) when car reaches desired speed within operating range of 25 mph to 85 mph. (System engages as "Cruise" switch is released).

Car can be accelerated to a higher speed for passing and the Cruise Control system will resume control when the car returns to the set speed.

2. Disengagement of the Auto-Cruise System

Apply brake pedal
or
turn "Cruise" switch counterclockwise.

Unit will also disengage when ignition is turned off.

NOTE: If car speed drops approximately 10 mph below cruise engaged speed, unit will automatically (hydraulically) disengage. However, the cruise light will remain on until the unit is disengaged (electrically) by one of the conventional means noted above. The same condition exists if the "Cruise" button is inadvertently turned

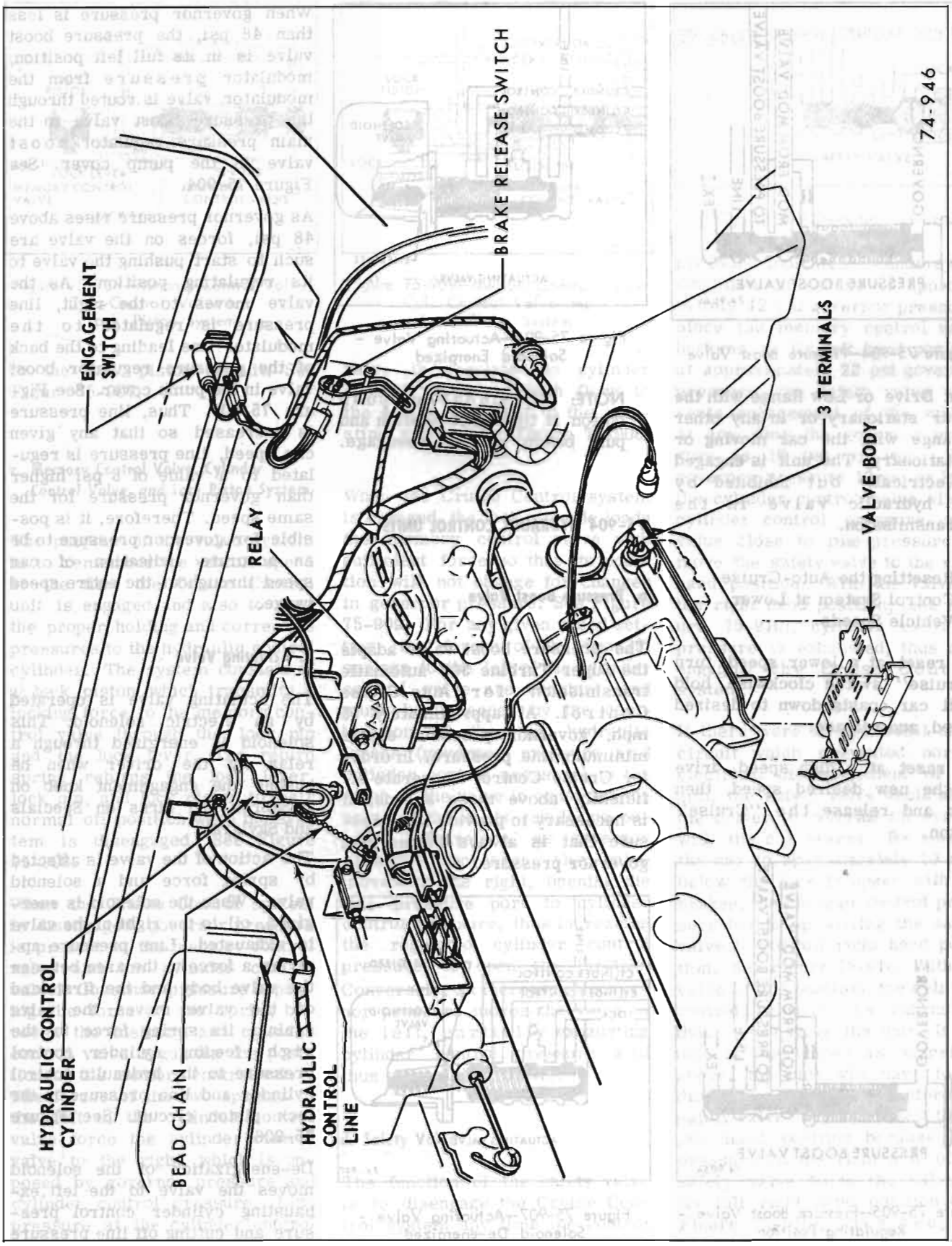


Figure 75-903—Auto-Cruise Control System

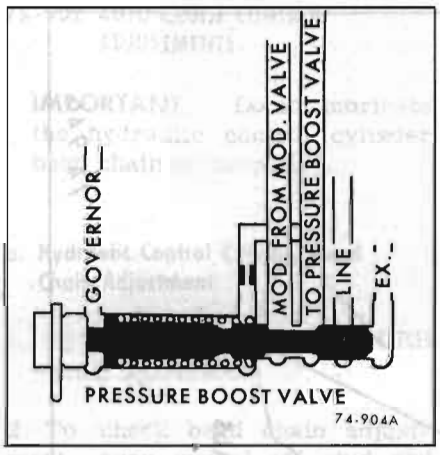


Figure 75-904—Pressure Boost Valve

in Drive or Low Range with the car stationary or in any other range with the car moving or stationary. The unit is engaged electrically but inhibited by a hydraulic valve in the transmission.

3. Resetting the Auto-Cruise Control System at Lower Vehicle Speeds

To reset at a lower speed, turn "Cruise" switch clockwise, hold until car coasts down to desired speed, and release.

To reset at a high speed, drive to the new desired speed, then turn and release the "Cruise" button.

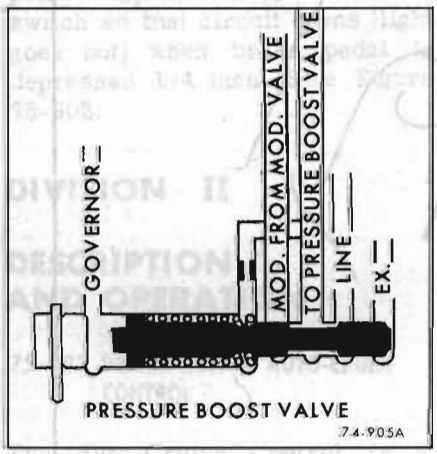


Figure 75-905—Pressure Boost Valve - Regulating Position

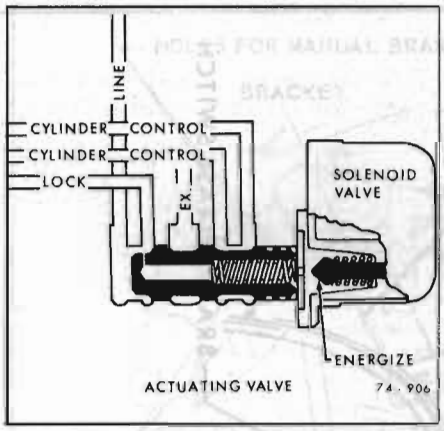


Figure 75-906—Actuating Valve - Solenoid Energized

NOTE: On LeSabres push button in to engage system and pull button out to disengage.

75-904 HYDRAULIC CONTROL UNITS

a. Pressure Boost Valve

The pressure boost valve adapts the Super Turbine 300 automatic transmission for Auto-Cruise Control. At approximately 55 mph, governor pressure equals minimum line pressure. In order for Cruise Control to operate efficiently above these speeds, it is necessary to provide line pressure that is always higher than governor pressure.

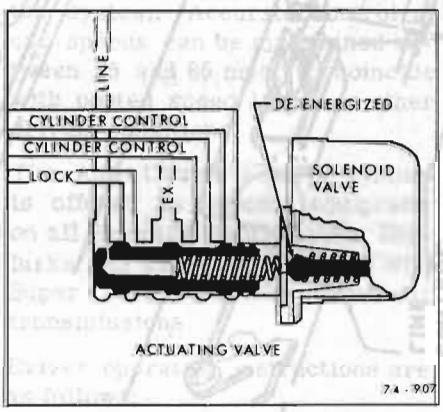


Figure 75-907—Actuating Valve - Solenoid De-energized

When governor pressure is less than 48 psi, the pressure boost valve is in its full left position, modulator pressure from the modulator valve is routed through the pressure boost valve to the main pressure regulator boost valve in the pump cover. See Figure 75-904.

As governor pressure rises above 48 psi, forces on the valve are such to start pushing the valve to its regulating position. As the valve moves to the right, line pressure is regulated to the modulator line leading to the back of the pressure regulator boost valve in the pump cover. See Figure 75-905. Thus, line pressure is increased so that any given car speed, line pressure is regulated to a value of 8 psi higher than governor pressure for the same speed. Therefore, it is possible for governor pressure to be an accurate indication of car speed throughout the entire speed range.

b. Actuating Valve

The actuating valve is operated by an electric solenoid. This solenoid is energized through a relay by the driver when he pushes the engagement knob on LeSabres and turns on Specials and Skylarks.

The action of the valve is affected by spring force and a solenoid valve. When the solenoid is energized, oil to the right of the valve is exhausted. Line pressure applying a force to the area between the valve body and the first land of the valve moves the valve against its spring force to the right feeding cylinder control pressure to the hydraulic control cylinder and line pressure to the lock piston circuit. See Figure 75-906.

De-energization of the solenoid moves the valve to the left exhausting cylinder control pressure and cutting off line pressure

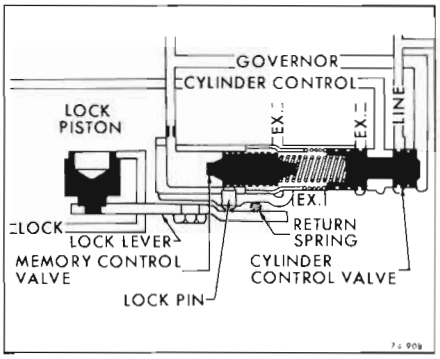


Figure 75-908—Memory Control Valve, Cyl. Control Valve and Lock Piston System

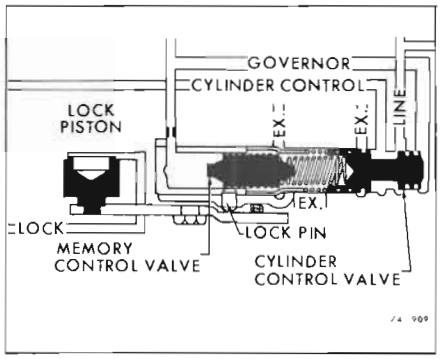


Figure 75-909—Memory Control Valve, Cyl. Control Valve and Lock Piston System

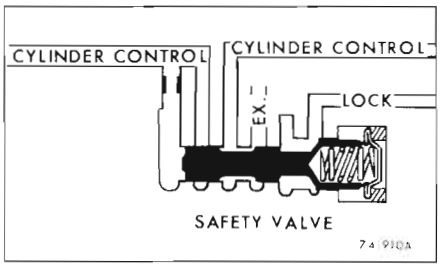


Figure 75-910—Safety Valve

to the lock piston circuit. See Figure 75-907.

c. Memory Control Valve, Cylinder Control Valve, and Lock Piston System

The purpose of the valve system is to remember the vehicle speed at the time the Cruise Control unit is engaged and also to send the proper holding and corrective pressures to the hydraulic control cylinder. The system consists of a lock piston which transmits a locking force to the memory control valve through the lock pin and the lock lever. The return spring returns the lock lever, lock pin, and lock piston to their normal off position when the system is disengaged. See Figure 75-908.

When the Cruise Control system is disengaged, governor pressure is present at the memory control valve and the cylinder control valve. Governor pressure opposing the force of the spring between the memory and cylinder control valve regulates the position of the memory control valve. The forces of the two springs to the left of the cylinder control valve force the cylinder control valve to the right, which is opposed by governor pressure and cylinder control pressure. Line pressure at the cylinder control valve is regulated to cylinder control pressure which flows to the safety valve and to the actuating valve. See Figure 75-908.

When the Cruise Control system is engaged, the lock pin side loads the memory control valve with sufficient force so that its position will not change for changes in governor pressure. See Figure 75-909. For any given speed setting, the forces of the two (2) springs to the left of the cylinder control valve are constant, and must be balanced by the combination of the two hydraulic forces (governor pressure and cylinder control pressure) to the right of the valve in order for the valve to be in its regulating position. Therefore, as governor pressure decreases, the valve moves to the right, opening the line pressure port to cylinder control pressure, thus increasing the regulated cylinder control pressure to open the throttle. Conversely, an increase in governor pressure moves the valve to the left, partially exhausting cylinder control pressure and thus closing the throttle.

d. Safety Valve

The function of the safety valve is to disengage the Cruise Control system any time the control pressure indicates an underspeed condition in excess of approximately 12 psi governor pressure. Since the memory control valve bottoms in its left hand position at approximately 22 psi governor pressure, the safety valve prevents engagement of the system at any time the governor pressure is 10 psi or less. With governor pressure 10 psi or less, the cylinder control valve allows cylinder control pressure, at a value close to line pressure, to move the safety valve to the right hand position. With the valve in the right hand position, (see Figure 75-910), cylinder control pressure is exhausted, thus disengaging the Cruise Control system.

If there were an electrical short circuit which prevented normal electrical disengagement of the unit, the safety valve would allow the driver to override the system with the car brakes. By slowing the car to approximately 10 mph below the lock-in speed with the brakes, the cylinder control pressure builds up moving the safety valve to its full right hand position. See Figure 75-910. With the valve in this position, the cylinder control pressure is exhausted, thus disengaging the unit. If the unit is disengaged as described above, the unit will have to be disengaged electrically before the safety valve can reset itself to the left hand position because lock pressure on the right side of the safety valve holds the valve in its full right hand position (see Figure 75-910), thus keeping

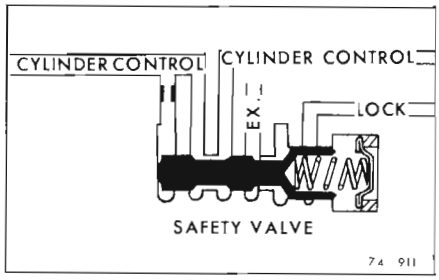


Figure 75-911—Safety Valve Operating Position

cylinder control pressure exhausted. With the valve in its left hand operating position, cylinder control oil is allowed to flow to the actuating valve (see Figure 75-911) and then to the hydraulic control cylinder.

e. Hydraulic Control Cylinder

The hydraulic control cylinder is mounted directly behind the throttle linkage on the engine cowl. It is the operating device which actually opens or closes the throttle. The hydraulic control cylinder actuating rod is connected to the throttle mechanism by a ball chain. See Figure 75-912. The cylinder is divided into two chambers, a pressurized chamber on the upper portion and a vented chamber containing a return spring on the lower portion. See Figure 75-912. The two chambers are divided by a piston which is sealed by a rolling type diaphragm. The cylinder control pressure opens the throttle and the return spring closes it.

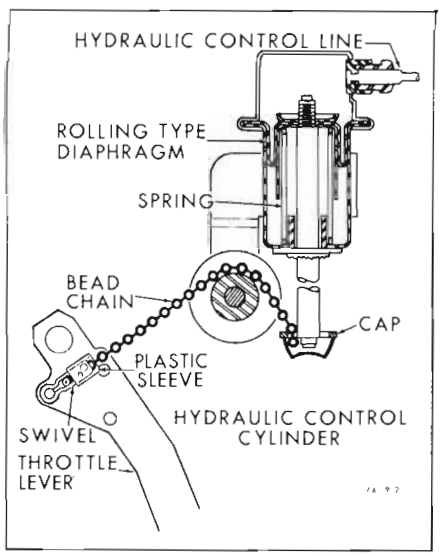


Figure 75-912—Hydraulic Control Cylinder

75-905 HYDRAULIC OPERATION

To insure fast response when the Cruise Control switch is engaged, transmission main line oil pressure and governor pressure are present in the system at all times. Main line oil is present at the pressure boost valve, cylinder control valve, and the actuating valve. Governor pressure is present at the pressure boost valve, memory control valve, and the cylinder control valve. Description of the hydraulic operation will be divided into three sections: (a) Car standing still (zero governor pressure), (b) Car at approximately 60 mph-Cruise Control disengaged, (c) Car at approximately 60 mph-Cruise Control engaged. See Figures 75-913, 75-914 and 75-915.

75-906 ELECTRICAL OPERATION

Since the Auto-Cruise Control is principally hydraulic in operation, the only electrical operation takes place in a circuit required to engage or disengage the cruise control. When this electrical circuit is completed, the actuating solenoid in the transmission is energized. The actuating valve, in turn, allows the hydraulic control cylinder to operate; for a description of the operation of all cruise control valves, see paragraph 75-904.

The electrical flow is from the accessory terminal of the ignition switch to the fuse block. See Figure 75-916. The Cruise Control and the radio both use the 7-1/2 ampere "RADIO" fuse. From the fuse block, the electrical flow is through the brake release switch, through the engagement switch, through the relay and through the transmission solenoid into ground.

The brake release switch is a normally closed switch; it opens to disengage the Cruise Control whenever the brake pedal is depressed 1/4 inch or more. The Cruise Control will remain disengaged when the brake pedal and brake release switch are returned to normal position, because the relay will open when the brake release switch is opened.

The engagement switch is a four-position switch, spring-loaded to return to normal position when turned clockwise on Specials and Skylarks and pushed in on LeSabres. The first position is the engaged position. In this position, current flows through the red wire and through the relay coil to ground; this coil pulls the relay armature down and closes the contacts to energize the actuating valve solenoid.

When the engagement switch is released to normal position, the relay is still held closed by current through the tan wire, through the relay contacts and through a cross-over connector into the relay coil. As long as the relay remains closed, current also flows through the red wire to the "CRUISE" indicator light so the driver will know that the Cruise Control is locked in.

When the engagement switch is turned full clockwise on Specials and Skylarks and pushed forward on LeSabres, this second position is a disengaged position. If the Cruise Control is already in operation, this position disengages the Cruise Control so that it can be reset to a new speed. To reset

a. Car Standing Still (Zero Governor Pressure)

With the governor pressure at zero, the memory control valve is in its far left hand position. See Figure 75-913. Line pressure is present at the pressure boost valve, cylinder control valve, and the actuating valve. The cylinder control valve, fed by line pressure, regulates cylinder control pressure to a valve sufficient to move the safety valve to the right hand position. See Figure 75-913. With safety valve in this position, the Cruise Control system will not engage.

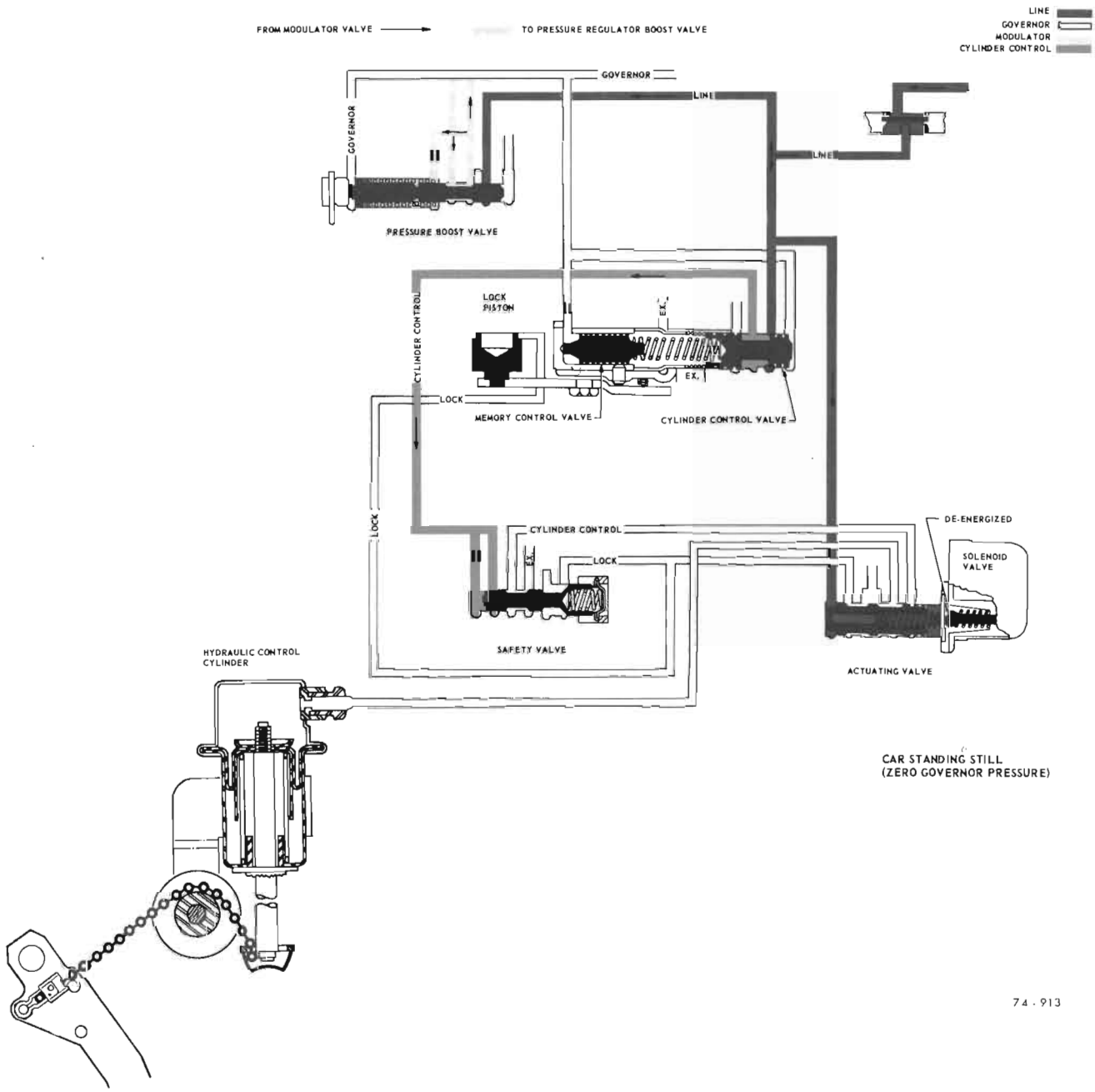


Figure 75-913—Car Standing Still (Zero Governor Pressure)

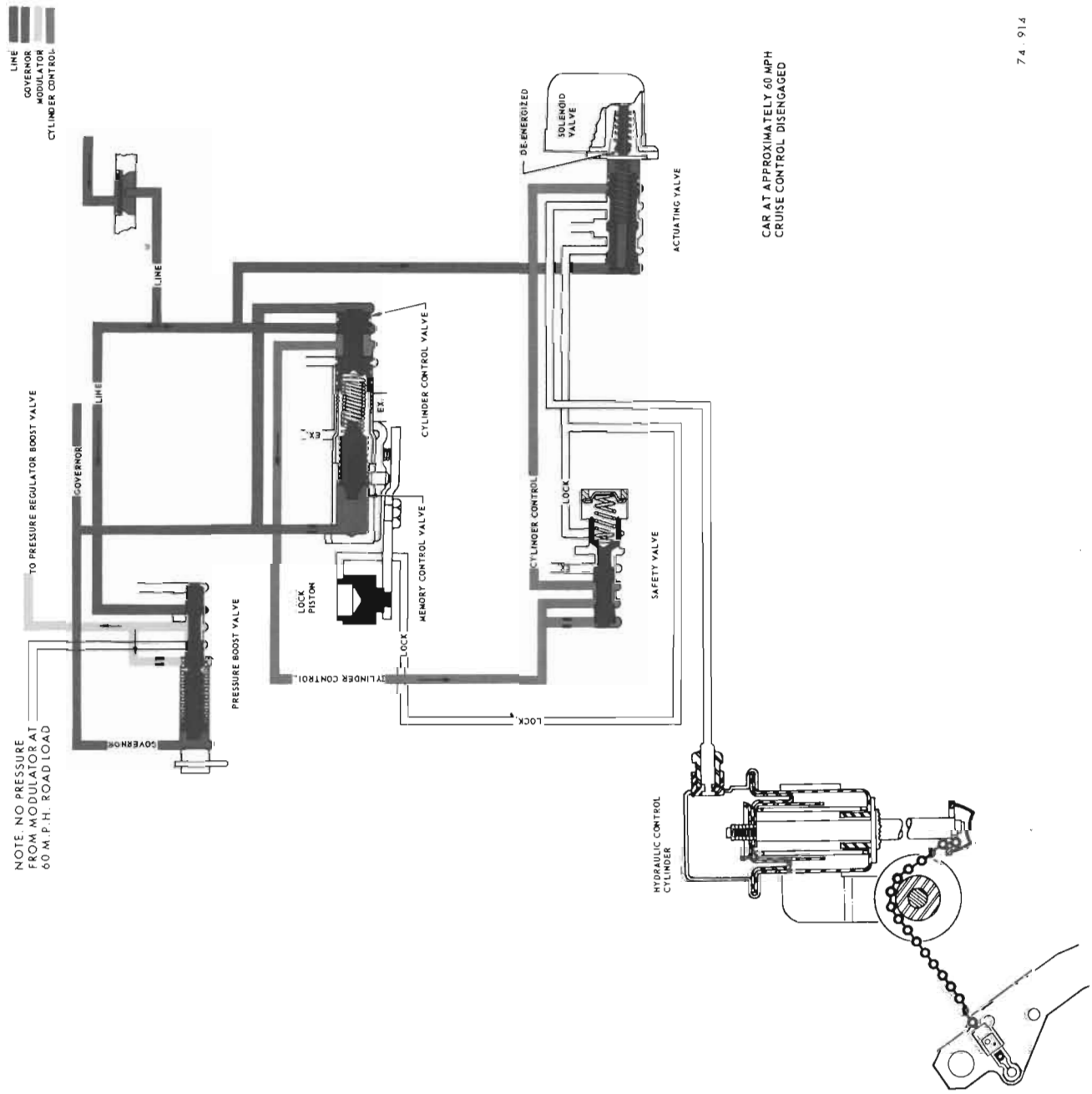


Figure 75-914—Car at Approximately 60 mph - Cruise Control Disengaged

b. Car at Approximately 60 mph— Cruise Control Disengaged

With the car at approximately 60 mph, Cruise Control disengaged, line pressure is present at the pressure boost valve, cylinder control valve, and the actuating valve. Governor pressure is present at the pressure boost valve, memory control valve, and the cylinder control valve. See Figure 75-914. Governor pressure opposing the force of the spring between the memory and cylinder control valve regulates the position of the memory valve. The forces of the two springs to the left of the cylinder control valve force the cylinder control valve to the right, which is opposed by governor pressure and cylinder control pressure. Line pressure at the cylinder control valve is regulated to cylinder control pressure which flows to the first two ports on the left hand side of the safety valve, but at pressure less than that required to move the valve to the right. With the valve in its left hand operating position, cylinder control oil is allowed to flow to the actuating valve. See Figure 75-914.

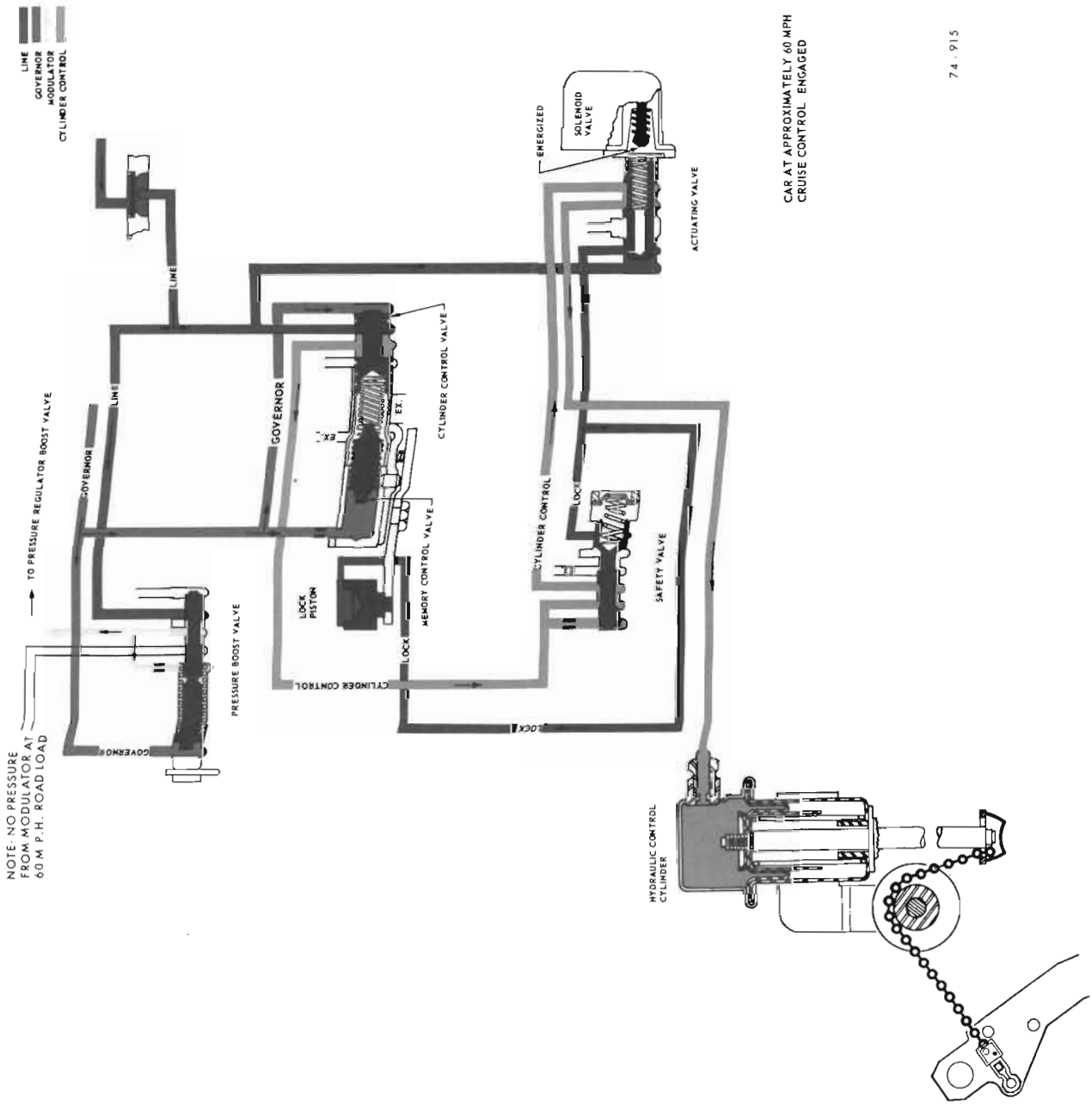


Figure 75-915—Car at Approximately 60 mph - Cruise Control Engaged

c. Car at Approximately 60 mph— Cruise Control Engaged

When the Cruise Control is engaged, the actuating valve solenoid is energized. Energization of the actuating valve solenoid allows oil to the right of the valve to flow to exhaust. Line pressure applying force to the area between the valve body and the first land of the valve moves the valve against its spring force to the right feeding line pressure to the lock piston circuit. See Figure 75-915. When lock oil reaches the lock piston, the piston moves down transmitting a locking force to the memory valve, through the lock lever and lock pin. The lock pin side loads the memory valve with sufficient force so that its position will not change for changes in governor pressure. The forces of the two springs to the left of the cylinder control valve force the cylinder control valve to the right, which is opposed by governor pressure and cylinder control pressure. Line pressure at the cylinder control valve is regulated to cylinder control pressure which flows to the first two ports on the left hand side of the safety valve. With the valve in its left hand operating position, cylinder control oil is allowed to flow to the actuating valve and then to the hydraulic control cylinder. As cylinder control pressure increases or decreases, the hydraulic control cylinder actuating rod moves up or down, thus controlling carburetor opening by movement of the throttle rod.

When the cruise switch is manually disengaged or the brakes are applied, the actuating valve solenoid is de-energized. De-energization of the solenoid moves the actuating valve to the left exhausting the oil from the hydraulic control cylinder and cutting off line pressure to the lock piston circuit. With no pressure to the lock pin, the lock lever return spring returns the lever, lock pin, and lock piston to their normal off position.

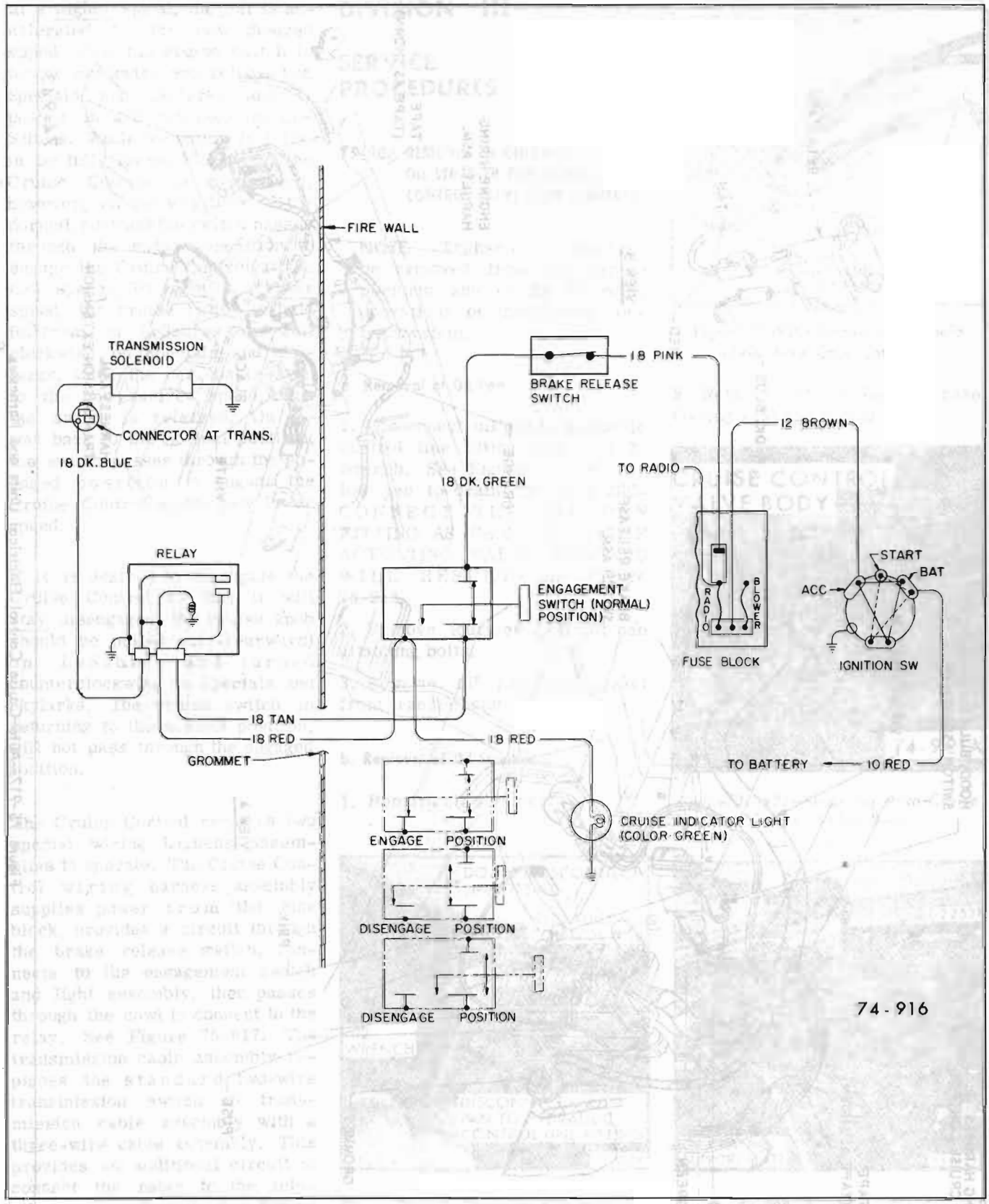


Figure 75-916—Auto-Cruise Control Wiring Circuit Diagram

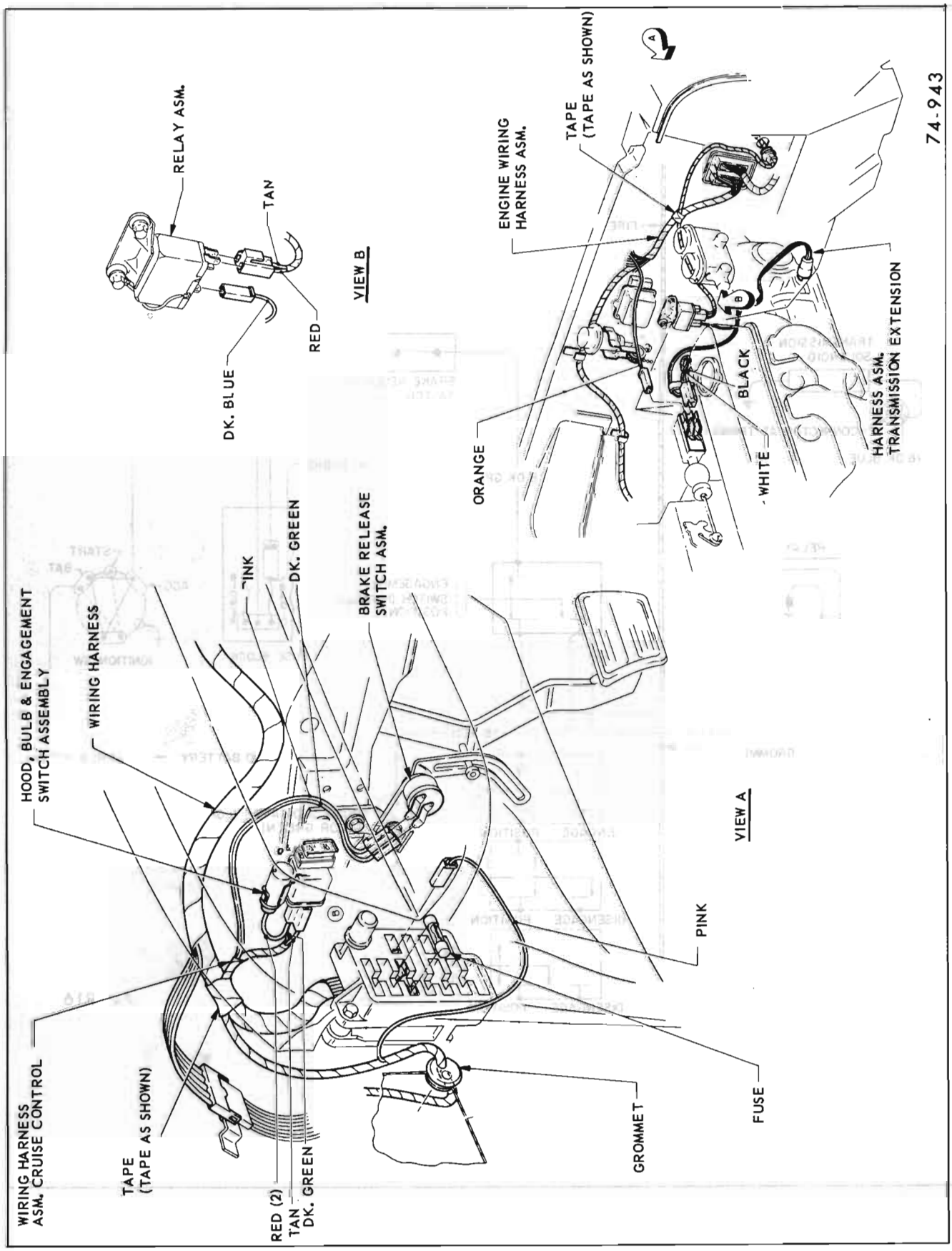


Figure 75-917—Auto-Cruise Control Electrical Units and Harnesses

at a higher speed, the car is accelerated to the new desired speed, then the cruise switch is turned clockwise and released on Specials and Skylarks and is pushed in and released on LeSabres. While the button is fully, in or fully turned clockwise, the Cruise Control is disengaged; however, on the way back to the normal position the switch passes through the engaged position to engage the Cruise Control at the new speed. To reset at a lower speed, the cruise button is held fully in on LeSabres and full clockwise on Specials and Skylarks, until the car coasts down to the new desired speed, then the switch is released. On the way back to the normal position, the switch passes through the engaged position to engage the Cruise Control at the new lower speed.

If it is desired to disengage the Cruise Control so that it will stay disengaged, the cruise knob should be pulled out (rearward) on LeSabres and turned counterclockwise on Specials and Skylarks. The cruise switch, in returning to the normal position, will not pass through the engaged position.

The Cruise Control requires two special wiring harness assemblies to operate. The Cruise Control wiring harness assembly supplies power from the fuse block, provides a circuit through the brake release switch, connects to the engagement switch and light assembly, then passes through the cowl to connect to the relay. See Figure 75-917. The transmission cable assembly replaces the standard two-wire transmission switch to transmission cable assembly with a three-wire cable assembly. This provides an additional circuit to connect the relay to the actuating valve solenoid. See Figure 75-917.

DIVISION III

SERVICE PROCEDURES

75-907 REMOVAL OF OIL PAN, OIL STRAINER AND CRUISE CONTROL VALVE BODY ASSEMBLY

NOTE: Transmission need not be removed from the car to perform any of the following operations on the Cruise Control System.

a. Removal of Oil Pan

1. Disconnect oil pan to hydraulic control line fitting using a 1/2" wrench. See Figure 75-918. Allow pan to drain. DO NOT DISCONNECT THE OIL PAN FITTING AS DAMAGE TO THE ACTUATING VALVE SOLENOID WILL RESULT. See Figure 75-918.

2. Remove fourteen (14) oil pan attaching bolts.

3. Remove oil pan and gasket from transmission.

b. Removal of Oil Strainer

1. Remove oil strainer.

Figure 75-918—Disconnecting Hydraulic Control Line Fitting

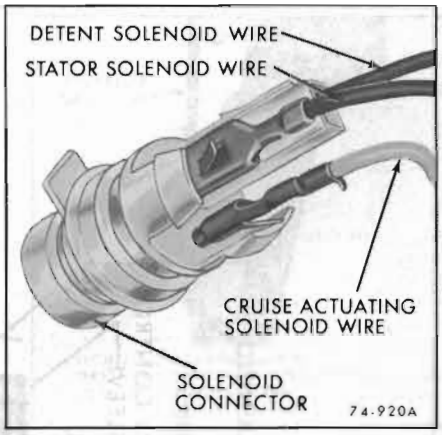


Figure 75-920—Removing Solenoid Wires from Case Connector

2. Remove oil strainer to case O-ring seal and discard.

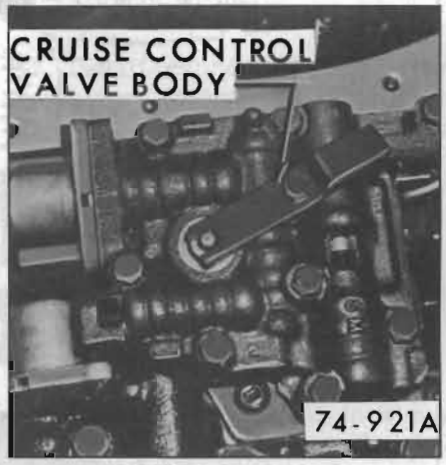


Figure 75-921—Removing Auto-Cruise Control Valve Body

Figure 75-922—Removing Oil Channel Support Plate

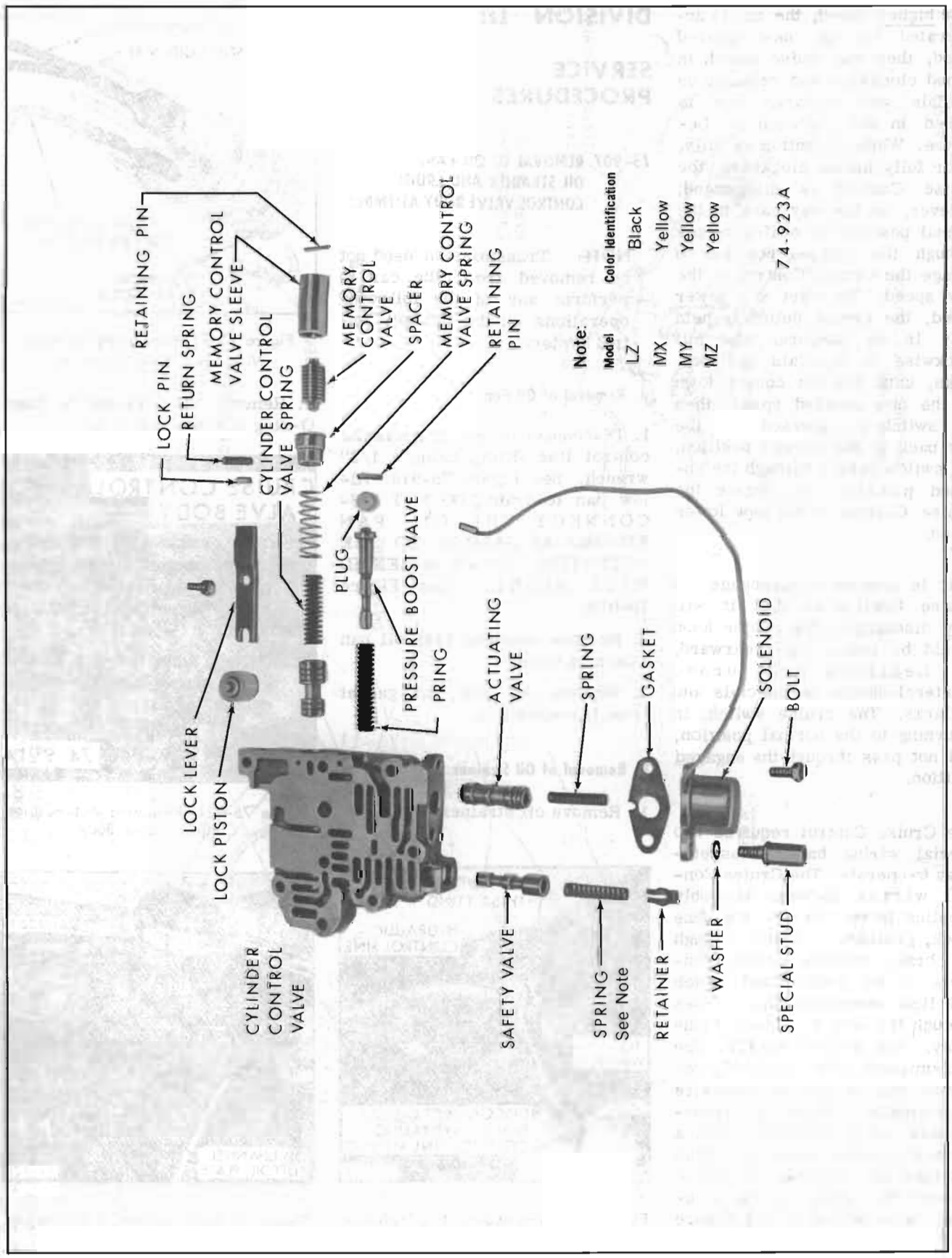


Figure 75-923—Exploded View of Auto-Cruise Control Valve Body

c. Removal of Cruise Control Valve Body

1. Remove stator, detent and actuating solenoid wires from case connector. See Figure 75-920.

2. Remove Cruise Control valve body assembly, gasket and spacer plate. See Figure 75-921.

3. Remove oil channel support plate to case bolts using J-22531 or J-10167-3 (previously used Buick transmission tool which is no longer available). See Figure 75-922.

75-908-CRUISE CONTROL VALVE BODY DISASSEMBLY, INSPECTION AND REASSEMBLY

a. Disassembly—Refer to Figure 75-923

1. Remove one bolt and special valve body to hydraulic control line stud attaching actuating valve solenoid to valve body. Remove solenoid, gasket, spring, and actuating valve.

2. Depress the pressure boost valve plug and remove retaining pin. Remove spring and pressure boost valve.

NOTE: Valve is under heavy spring force so extreme care should be exercised in removal of retaining pin and plug.

3. Remove bolt retaining lock lever to valve body. Remove lock lever, lock pin, return spring and lock piston.

4. Depress memory control valve sleeve and remove retaining pin. Remove memory control valve and sleeve, cylinder control valve spacer, memory control and cylinder control valve springs and cylinder control valve.

5. Depress safety valve spring with a small screwdriver. Remove retainer as shown in Figure 75-924. Remove spring and safety valve.

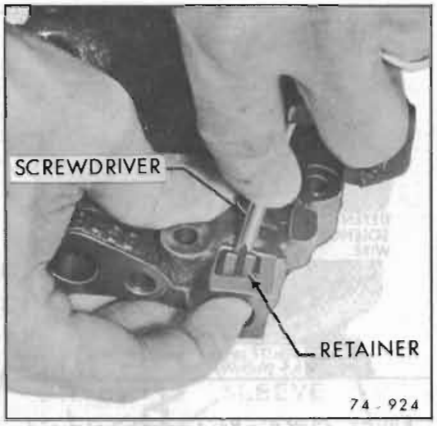


Figure 75-924—Removing Safety Valve Retainer

b. Inspection

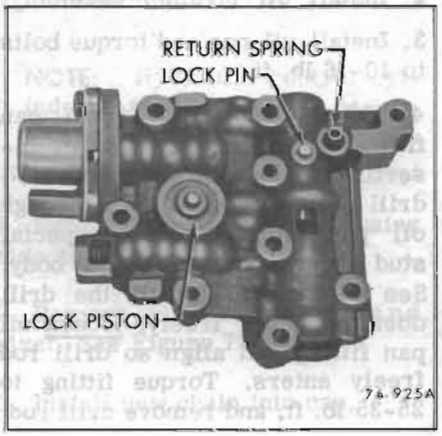
1. Thoroughly clean all valves and valve body in solvent. Inspect valves and valve body for evidence of wear or damage due to foreign material. Dry valve body and valves with clean air blast.

2. Test each valve in its bore. All valves must move freely of their own weight.

3. Thoroughly clean screen in oil channel support plate.

c. Reassembly—Refer to Figure 75-923

1. Install safety valve and spring. Depress spring with small screwdriver and install retainer.



igure 75-925—Installing Lock Piston, Lock Pin and Return Spring

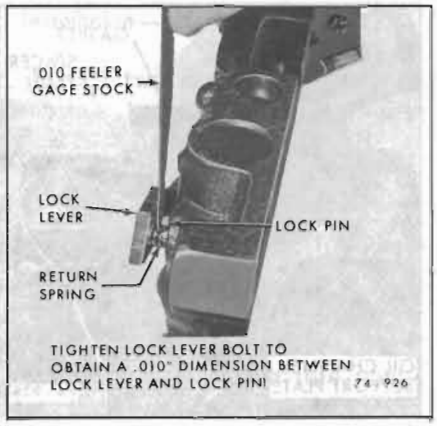


Figure 75-926—Tightening Lock Lever Bolt

NOTE: Refer to Figure 75-923 for correct color code identification of spring.

2. Install cylinder control valve, cylinder control valve spring, memory control valve spring, memory control valve spacer, memory control valve and sleeve. Depress sleeve and install retaining pin.

NOTE: Make certain lock pin hole in sleeve lines up with lock pin hole in valve body.

3. Install lock piston, lock pin, return spring, (see Figure 75-925). Install lock lever and bolt. Tighten bolt to obtain dimension shown in Figure 75-926.

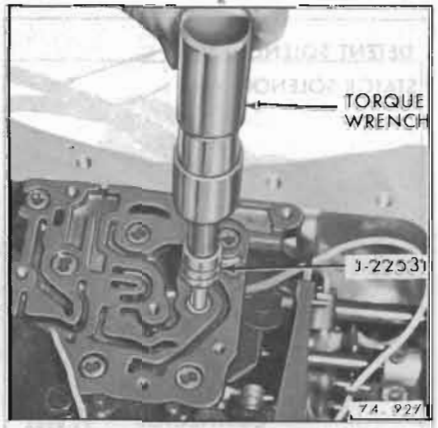


Figure 75-927—Installing Oil Channel Support Plate

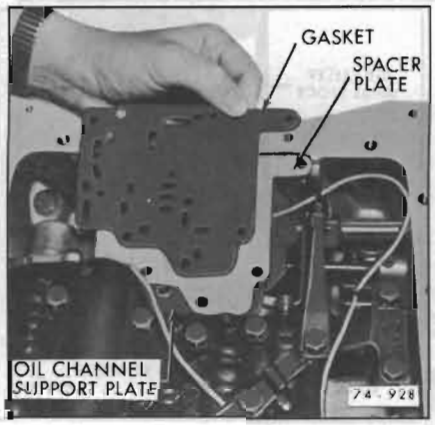


Figure 75-928—Installing Spacer Plate and Gasket

4. Install pressure boost valve, spring and plug. Depress plug and install retaining pin.

5. Install actuating valve, spring gasket and solenoid assembly. Install retaining bolt. Torque 8-12 lb. ft. Install washer to special solenoid to valve body stud. Install stud. Torque 8-12 lb. ft.

75-909 INSTALLATION OF CRUISE CONTROL VALVE BODY ASSEMBLY, OIL STRAINER AND OIL PAN

a. Installation of Cruise Control Valve Body

1. Install oil channel support plate using J-22531 or J-10167-3.

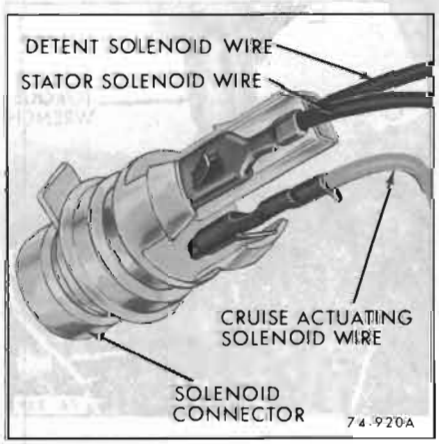


Figure 75-929—Installing Stator, Detent and Actuating Solenoid Wires

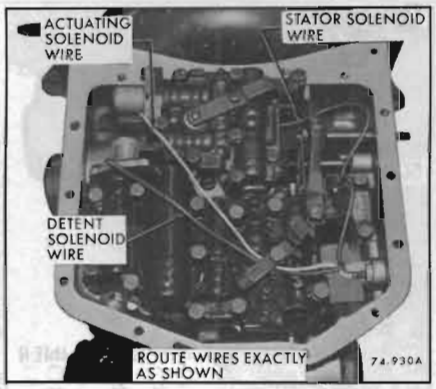


Figure 75-930—Routing of Solenoid Wires

Torque bolts to 8-12 lb. ft. See Figure 75-927.

2. Install spacer plate and gasket. See Figure 75-928.

3. Install Cruise Control valve body. Torque bolts to 6-9 lb. ft.

4. Install stator, detent, actuating solenoid wires into case connector. See Figure 75-929.

NOTE: Route solenoid control wires as shown in Figure 75-930.

b. Installation of Oil Strainer

1. Install new oil strainer to case O-ring seal.

2. Install oil strainer assembly.

3. Install oil pan and torque bolts to 10-16 lb. ft.

4. Check alignment of oil pan fitting to valve body stud by inserting a piece of .302 (Letter N) drill rod or a 19/64" drill through oil pan fitting and into special stud located on the valve body. See Figure 75-931. If the drill does not enter freely, loosen oil pan fitting and align so drill rod freely enters. Torque fitting to 25-35 lb. ft. and remove drill rod.

5. Install hydraulic control line into fitting on pan. Torque nut to 5 lb. ft. See Figure 75-932.

Figure 75-931—Torquing Oil Pan Fitting

CAUTION: IF FITTING IS TORQUED IN EXCESS OF 5 LB. FT., FAILURE OF FITTING CAN RESULT.

75-910 REMOVAL, CHAIN REPLACEMENT, AND INSTALLATION OF HYDRAULIC CONTROL CYLINDER

a. Removal—Refer to Figure 75-933

1. Remove bead chain at throttle lever.

2. Disconnect hydraulic control cylinder line from cylinder.

3. Remove two (2) bolts retaining hydraulic control cylinder to cowl. Remove hydraulic control cylinder assembly.

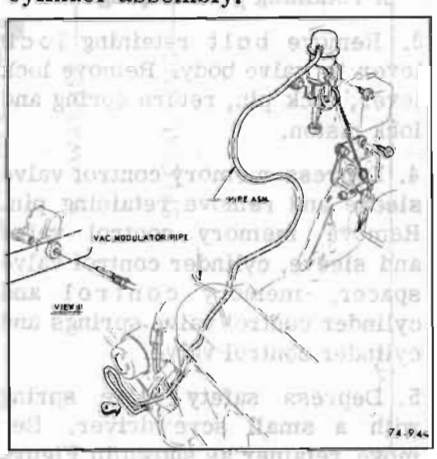


Figure 75-932—Installing Hydraulic Control Line Fitting into Oil Pan

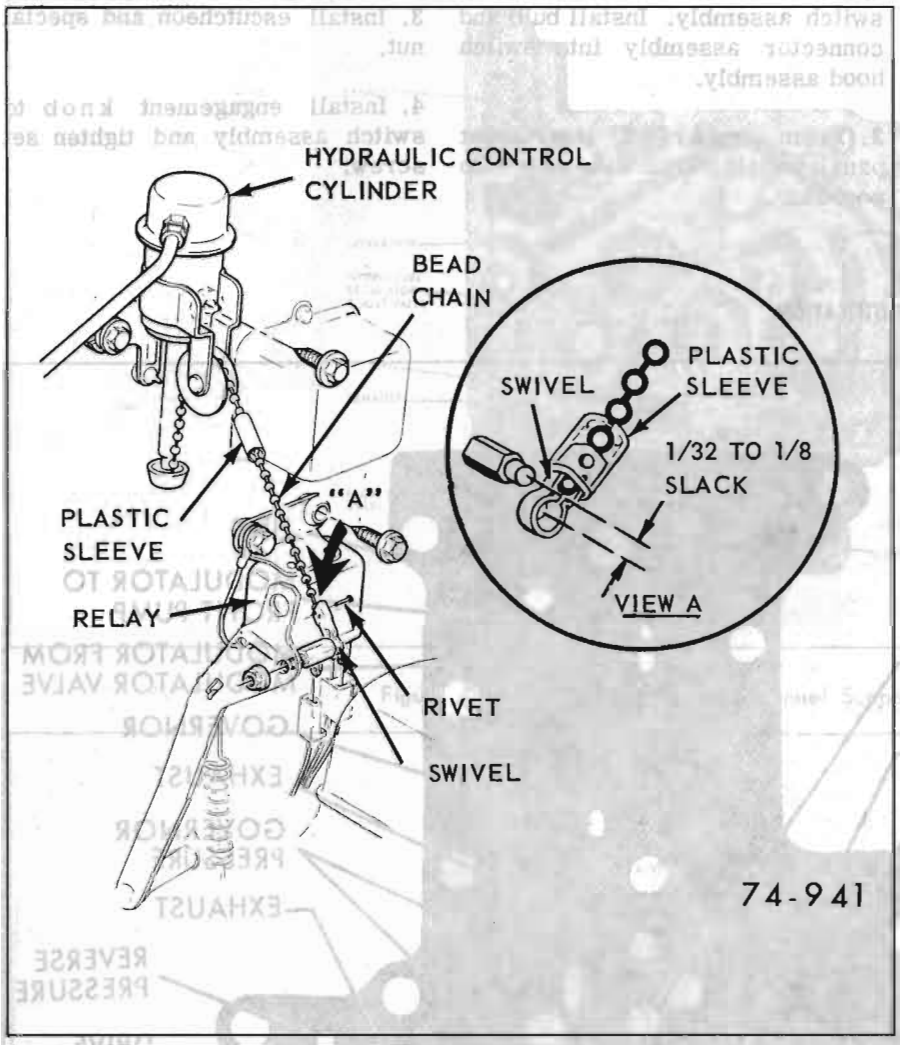


Figure 75-933—Bead Chain Adjustment

Figure 75-934—Installing Cap and Chain Assembly onto Hydraulic Control Cylinder

b. Chain Replacement

NOTE: Hydraulic control cylinder assembly must be removed from the car to change the chain.

1. Remove cap and retainer using side cutters.

2. Remove plastic sleeve and rivet. See Figure 75-933.

3. Install new chain into cap.

4. Install cap and chain assembly onto hydraulic control cylinder. See Figure 75-934.

c. Installation—Refer to Figure 75-933

1. Install two new grommets into mounting bracket of hydraulic control cylinder and install on cowl.

2. Install hydraulic control line. Torque fitting to 8-12 lb. ft.

3. Assemble plastic sleeve on bead chain. Assemble chain through swivel to be taut when carburetor is at curb idle position; then insert rivet into open hole of swivel which will permit chain to have a slack of 1/32" to 1/8". See Figure 75-933. Slide plastic sleeve over swivel body to retain rivet. Cut off chain flush with side of swivel.

75-911 REMOVAL AND INSTALLATION OF CRUISE CONTROL ENGAGEMENT SWITCH 43-44000 ONLY

REFER TO PAR. 120-22 FOR 45000 SERIES

a. Removal—Refer to Figure 75-935

1. Loosen set screw retaining engagement knob to switch assembly. Remove engagement knob.

2. Remove special nut retaining escutehcon to switch assembly. Remove escutcheon.

3. From rear of instrument panel, unplug wiring connector from switch assembly. Remove bulb from switch hood assembly.

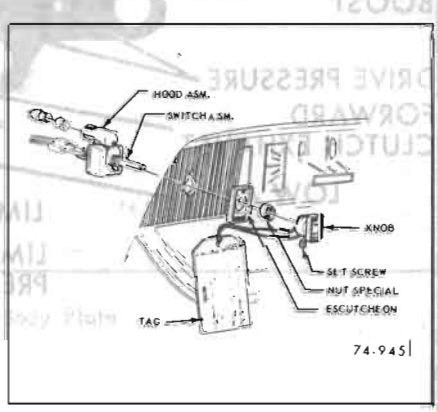


Figure 75-935—Cruise Control Engagement Switch Installation

4. Remove switch assembly.

NOTE: The Cruise Control engagement light uses a No. 53 bulb.

b. Installation—Refer to Figure 75-935

1. Plug in wiring connector to switch assembly. Install bulb and connector assembly into switch hood assembly.

2. From rear of instrument panel, install switch assembly into position.

3. Install escutcheon and special nut.

4. Install engagement knob to switch assembly and tighten set screw.

75-912 AUTO CRUISE CONTROL CHANNEL IDENTIFICATION

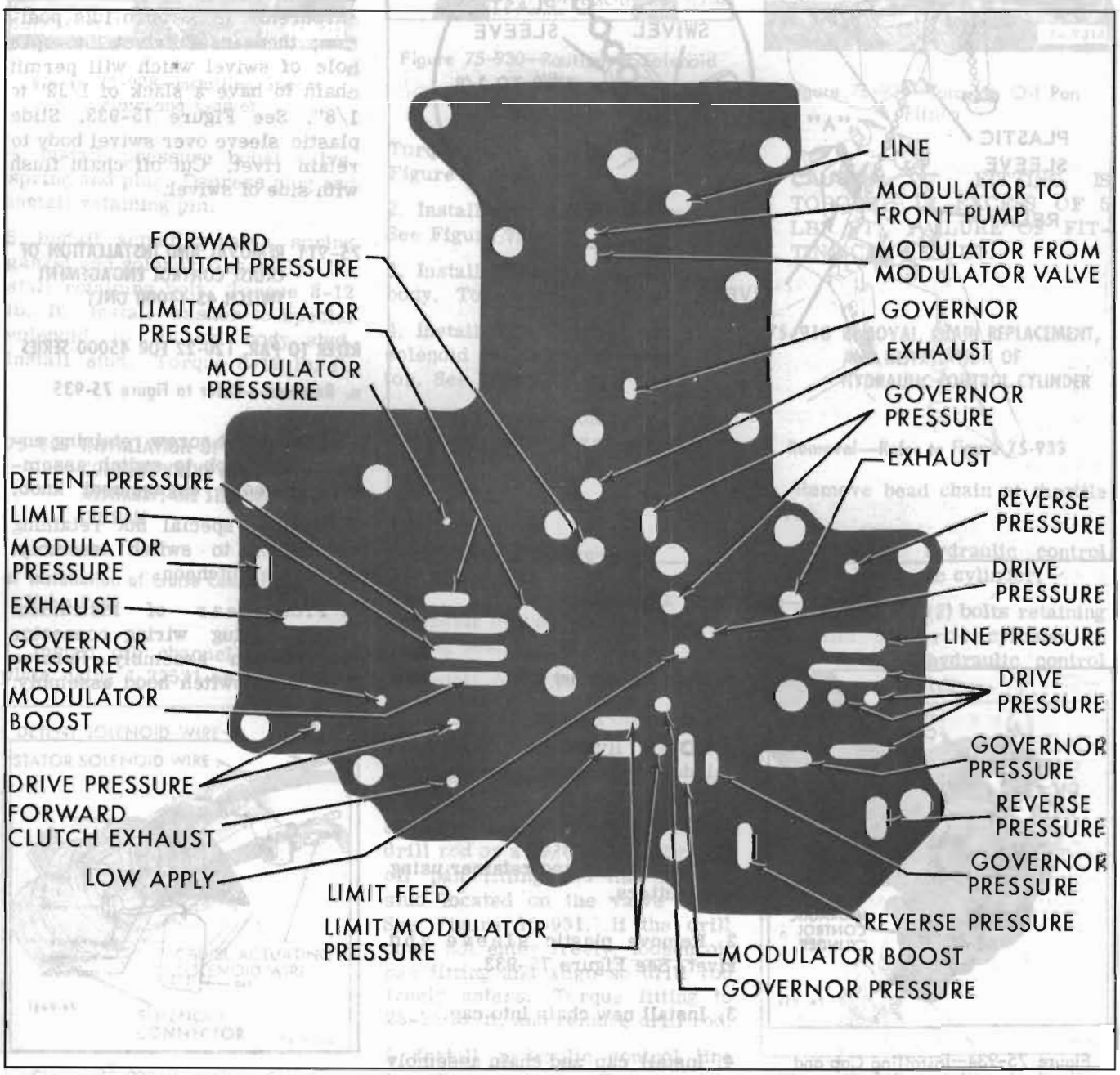


Figure 75-936—Transmission Valve Body Plate

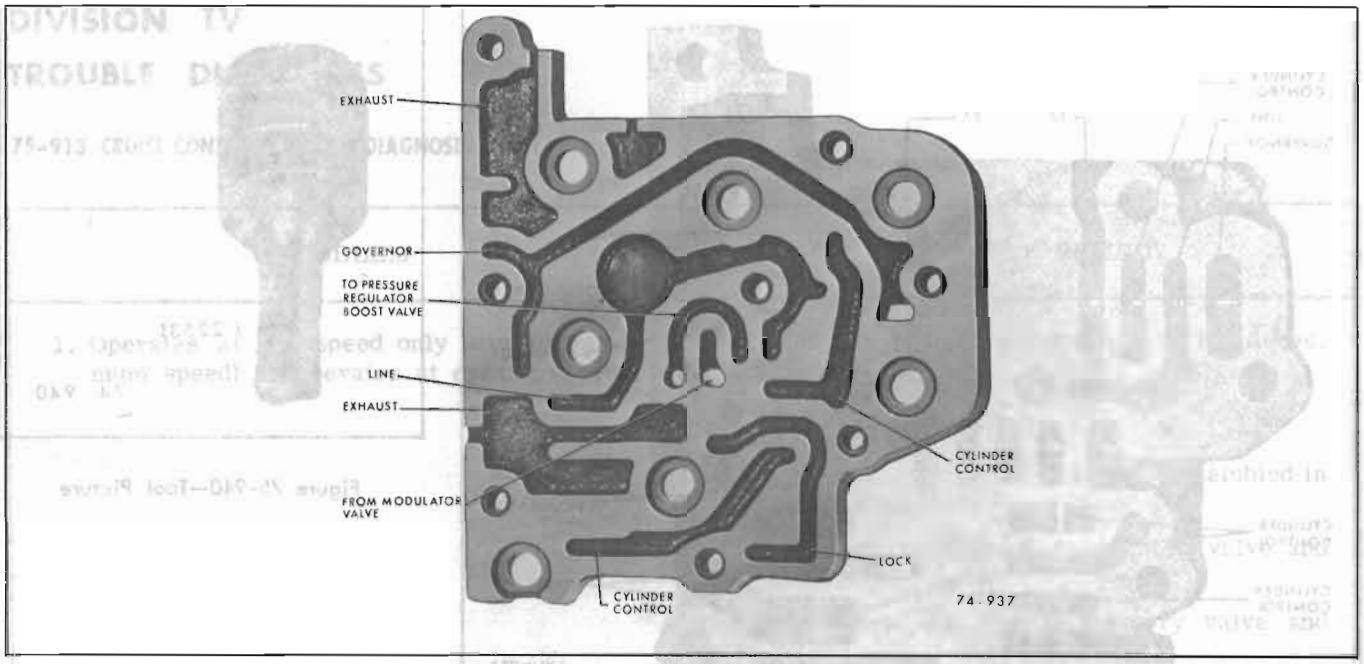


Figure 75-937—Channels in Oil Channel Support Plate

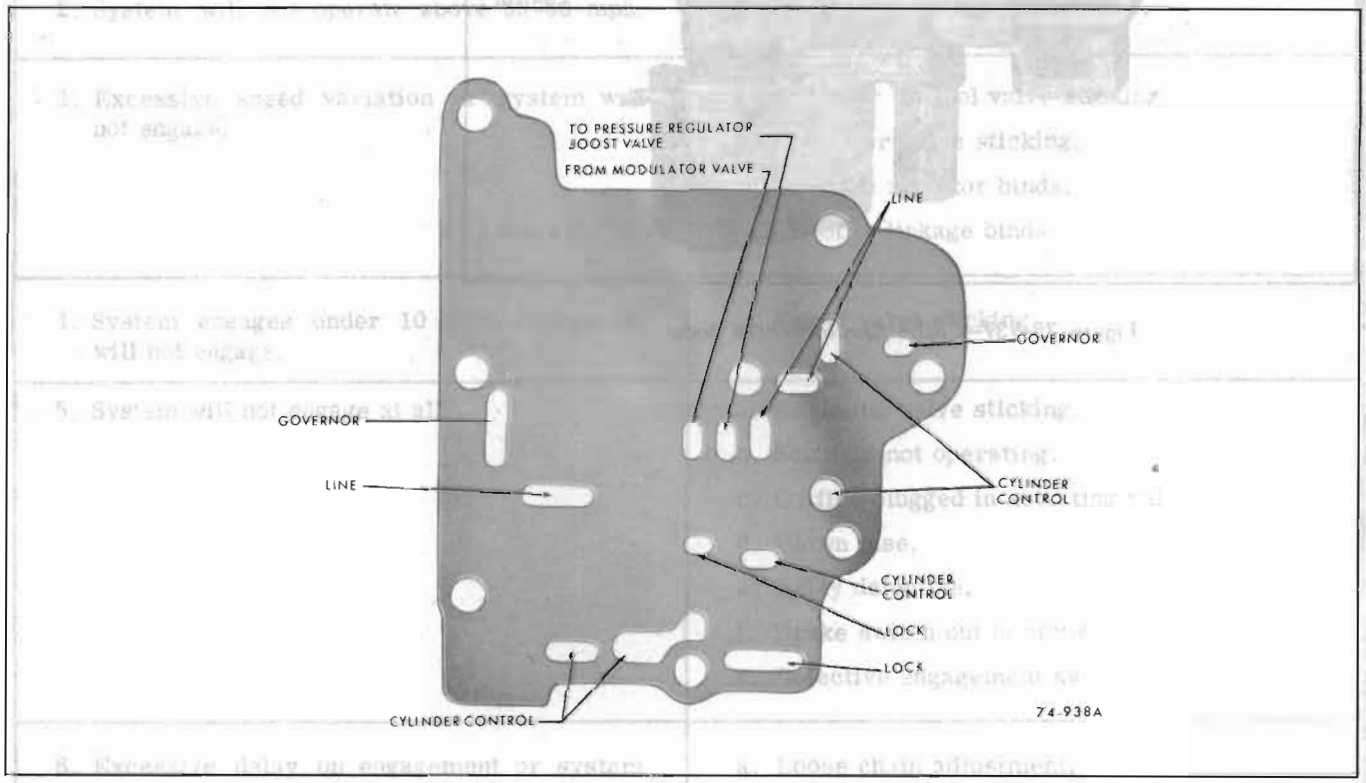


Figure 75-938—Oil Channel Support Plate to Valve Body Plate

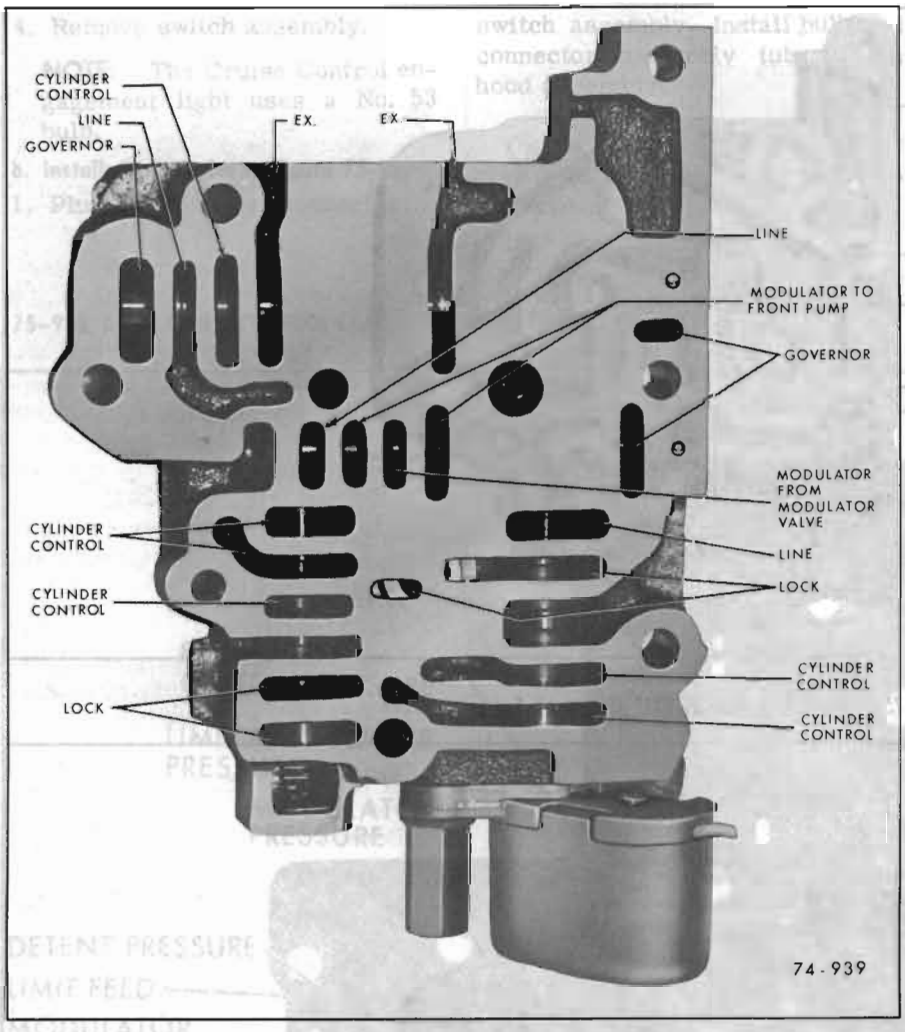


Figure 75-939—Cruise Control Valve Body

Figure 75-940—Tool Picture

DIVISION IV
TROUBLE DIAGNOSIS

75-913 CRUISE CONTROL TROUBLE DIAGNOSIS CHART

PROBLEM	PROBABLE REMEDY
1. Operates at one speed only (usually minimum speed) or operates at erratic speeds.	a. Memory control valve sticking in sleeve. b. Lock lever too tight in adjustment. c. Lock pin sticking. d. Cylinder control valve spring assembled in wrong location. e. Oil passage plugged to memory valve and sleeve. f. Excessive oil leak at memory valve and sleeve.
2. System will not operate above 55-60 mph.	a. Sticking pressure boost valve.
3. Excessive speed variation or system will not engage.	a. Cylinder control valve sticking. b. Governor valve sticking. c. Throttle actuator binds. d. Throttle linkage binds.
4. System engages under 10 mph or system will not engage.	a. Safety valve sticking.
5. System will not engage at all.	a. Actuating valve sticking. b. Solenoid not operating. c. Orifice plugged in actuating valve. d. Blown fuse. e. Relay defective. f. Brake switch out of adjustment. g. Defective engagement switch.
6. Excessive delay on engagement or system disengages on steep hills.	a. Loose chain adjustment.
7. Throttle will not return to curb idle.	a. Tight chain adjustment.
8. Erratic engagement.	a. Solenoid bolts loose.